



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

U/R

MARCH 5/20

D5808-9

Job Sheet 207534



POSITIVE RECALL

EFFECTIVE _____ AUTH _____

RELEASED _____ DATE _____

Part No: D5808-9

Job Qty: 4 pcs

Part Name: Cutout Side



Part Weight: 0 lbs

Status: New

Job Created: 2/27/20

Job Tracking No:

Due Date: 3/27/20

Created By: Jennifer Renwick

Priority: Medium

Type: Stock

Description:

Note: URF 20-522 DWG D5808 Rev A5 IPP Rev. A 2020.01.30 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Run Hrs Hrs	Workcenter/Supplier		Sign-off
						Workcenter / Supplier	Lead Time	
110	Large Fab - Welded Assy-1	4 pcs	3/27/20		0.00 0.40	Large Fab - 1		
						Large Fab - 10		
						Large Fab - 2		
						Large Fab - 3		
						Large Fab - 4		
						Large Fab - 5		
						Large Fab - 6		
						Large Fab - 7		
						Large Fab - 8		
						Large Fab - 9		
						Large Fab - 11 (Various)		
120	QC 5	4 pcs	3/27/20		0.00 0.00	Large Fab - 12		
						QC 5 - 10		
						QC 5 - 12		
						QC 5 - 17		
						QC 5 - 18		
						QC 5 - 19		
						QC 5 - 22		
						QC 5 - 24		
						QC 5 - 3		
						QC 5 - 43		
						QC 5 - 49		
						QC 5 - 51		
						QC 5 - 58		
						QC 5 - 68		
						QC 5 - 9		
						QC 5 - 50		
						QC 5 - 30		
						QC 5 - 40		
						QC 5 - 61		
						QC 5 - 81		



Container No: S262010



Part: D5808-9

Job No: 207534

Serial No/Batch: S262010

Revision: A5

Inspector:

Exp Date:

Instructions:

Date: 03/09/20

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

DAS
40
9-89

MAR 10 2020

Plex 3/5/20 7:17 AM Dart.lajeunesse.marie

130 Packaging 3-1 - Stock - B4B 4 pcs

3/27/20

0.00 0.00

Packaging 3 - 1 - B4B

Packaging 3 - 2 - B4B

Packaging 3 - 3 - B4B

Packaging 3 - 4 - B4B

Packaging 3 - 5 - B4B

Packaging 3 - 6 - B4B

Packaging 3 - 7 - B4B

Packaging 3 - 8 - B4B

Packaging 3 - 9 - B4B

Packaging 3 - 10 - B4B

Packaging 3 - 11 - B4B

Packaging 3 - 12 - B4B

Packaging 3 - 13 - B4B

Packaging 3 - 14 - B4B

Packaging 3 - 15 - B4B

Packaging 3 - 16 - B4B

Packaging 3 - 17 - B4B

Packaging 3 - 18 - B4B

Packaging 3 - 19 - B4B

Packaging 3 - 20 - B4B

Packaging 3 - 21 - B4B

Packaging 3 - 22 - B4B

Packaging 3 - 23 - B4B

Packaging 3 - 24 - B4B

Packaging 3 - 25 - B4B

Packaging 3 - 26 - B4B

Packaging 3 - 27 - B4B

Packaging 3 - 28 - B4B

Packaging 3 - 29 - B4B

Packaging 3 - 30 - B4B

Packaging 3 - 31 - B4B

Packaging 3 - 32 - B4B

Packaging 3 - 33 - B4B

Packaging 3 - 34 - B4B

Packaging 3 - 35 - B4B

Packaging 3 - 36 - B4B

Packaging 3 - 37 - B4B

140 QC 21 - SA

4 pcs

3/27/20

0.00 0.00

QC 21 - SA - 21

QC 21 - SA - 70

QC 21 - SA - 53

DAS

21

9-85

MAR 10 2020

Part Op 110 - Fabricate per Drwg - 1-Cut as per DWG. 2-Deburr.
 Descriptions: 120 - QC5- Inspect part completeness to step on W/O
 130 - Identify as per dwg & Stock Location: _____
 140 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NTS0.750W.035	4130 Square Tube 0.750 X 0.035W	2,1680 ft (.542 ea)	110-Large Fab - Welded Assy-1	5250 794

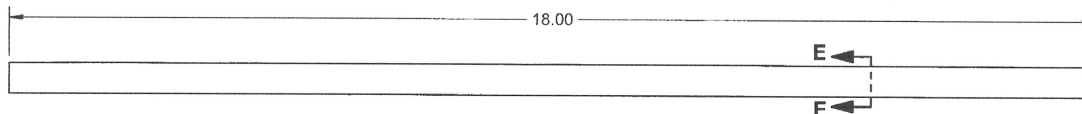
Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Large Fab - Welded Assy-1	M4130NTS0.750W.035	2	448	0

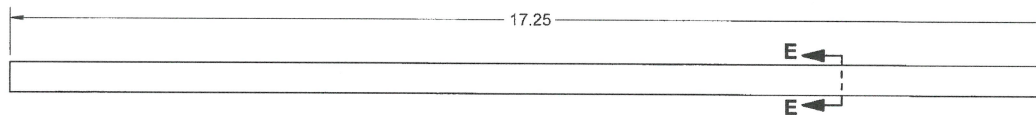
Part Specifications

Specifications could not be found.

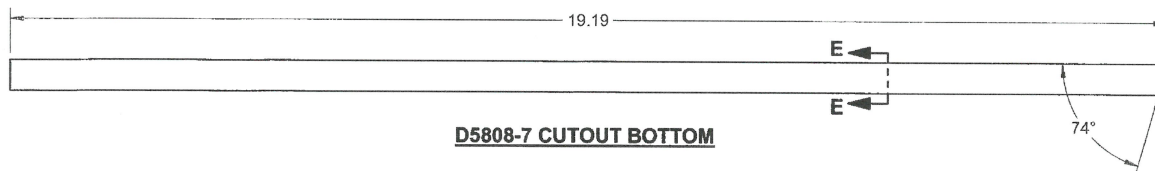
8 7 6 5 4 3 2 1



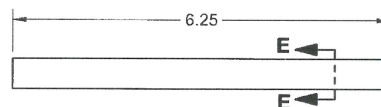
D5808-3 SPINE



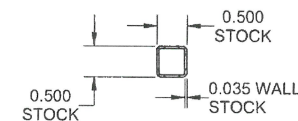
D5808-5 SPINE



D5808-7 CUTOUT BOTTOM



D5808-9 CUTOUT SIDE



SECTION E-E

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 207534

MCS
20-0305

UNDER REVIEW
URF 2020-522 20.02.14 (NO)

- NOTES:
- 1) MATERIAL: AISI 4130N STEEL SQUARE TUBING, 1/2 X 0.035 WALL
PER MIL-T-6736 OR AMS 6371/6360/6361/6362/6373/6374
REF DART SPEC M4130N-TS0.500W.035
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: -3: 0.32 lbs
-5: 0.30 lbs
-7: 0.34 lbs
-9: 0.11 lbs

RELEASED
2020 FEB 18 *NO*

APPROVED

DESIGN	ZF	DART AEROSPACE LTD	
DRAWN	ZF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	DRAWING NO. D5808	REV. A
MFG. APPR.	DD	TITLE	SHEET 5 OF 6
APPROVED	NO	LONG BASKET BODY	SCALE
DE APPR.	CP		NTS
DATE	20.01.20	COPYRIGHT © 2020 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

8 7 6 5 4 3 2 1



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045594



Supplier: FAC001-VU
Factory Steel
14020 Oakland Ave.
Detroit, MI 48203 USA
Phone: 313 883 6300
Fax: 313 883 4883

PO No: POHB045594

PO Date: 1/16/20

Due Date: 2/4/20

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Phone:

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

JAN 16 2020

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1		M4130NTS0.750W.035			4130 Square Tube 0.750 X 0.035W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed	-	2/4/20	600 ft	0 ft	600 ft	\$7.25/ft	\$4,350.00
										609 ft 600			
2		M4130NTS1.000W.065			4130 Square Tube 1.000" X 1.000" X 0.065"W : MATERIAL: AISI 4130N STEEL SQUARE TUBING PER ONE OF THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371, 6390, 6361, 6362, 6373 OR 6374	Firmed	-	2/4/20	160 ft	0 ft	160 ft	\$11.70/ft	\$1,872.00
										171 ft 603			
Grand Total:												\$6,222.00	

Plex 1/16/20 11:38 AM Dart.Lavoie.Chantal



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

POHB045594



Order Notes

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program.

A049 supplier awareness.

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/16/20 11:38 AM Dart.Lavoie.Chantal

LINE 1
M4130NTS 0.750W.035

S250794

616506



DESIGN DH	DRAWN BY DH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED H	APPROVED H	DRAWING NO. M4130N-TS	REV. A SHEET 1 OF 1
DATE 05.02.09		TITLE 4130N SQUARE TUBING	SCALE NTS
A	05.02.09	NEW ISSUE	

PURCHASE MATERIAL:

AISI4130N STEEL SQUARE TUBING PER ONE OF
THE FOLLOWING SPEC'S: MIL-T-6736, AMS 6371,
6360, 6361, 6362, 6373 OR 6374

DAS
82
9-89

PART NUMBER: M4130N-TS | A.AAA | W | .TTT |

WHERE A.AAA = WIDTH IN INCHES
TTT = WALL THICKNESS IN INCHES

EXAMPLE: 0.50" X 0.035" WALL = M4130N-TS0.500W.035

RELEASED
05.02.15 H

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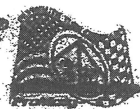


PLYMOUTH TUBE CO.

1200 East 12th Street, Streator, Illinois 61364

Phone: (815) 672-1515 Fax: (815) 672-7343

TRUST YOUR SOURCE! ACCEPT NO SUBSTITUTIONS!



PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

175629 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 023679

HEAT NUMBER 616506

MELT SOURCE Benteler Steel & Tube-Germany

PCS/HEAT 0

CUSTOMER P.O. 3887	CUSTOMER PART SQ-N34035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE								
PART DESCRIPTION SHSQ0750035J300 ***** Square OD ***** Side1: 0.7500 Max:0.7600 Min:0.7400 Side2: 0.7500 Max:0.7600 Min:0.7400 Wall: 0.0350 Max:0.0380 Min:0.0320 Length: 19.00/26.00 Spec: MIL-T 6736B Seamless Aircraft Grade: 4130 Anneal: Cond N													
CERTIFICATION REQUIREMENTS FAR BAA (FAR 52.225-1 Buy America Act Supplies). DFARS 252.225-7001 By America Act & Bal. of Payments Program FAR TAA (FAR 52.225-5 Trade Agreements)(Paragraph 1,3,4,5) This material was Eddy Current tested and conforms to the requirements of ASTM A-450. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method. Additional Specifications - AMS-T 6736B, 6360P & 6371L. Material produced in accordance to ASTM A-519-17 and MIL-T 6736B. This material meets Plymouth ProMoly specifications. Jominy results: J(5/16")=45 J(8/16")=38													
Chemical Analysis													
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn
.310	.55	.011	.002	.230	.036	.87	.18	.12	.001	.16	.002	.002	.010
Physical Properties													
Freq.	Severity	Grain Size											
.020	.015	9											
Mechanical Properties													
TEST	UNITS	#TESTS	HIGH	LOW	AVERAGE	STD-DEV							
Tensile	Psi	6	126660	125480	126065	482							
Yield	Psi	6	120930	119880	120387	374							
Elongation	%	6	21	20	20	1							
Rockwell C	Rc	6	25	25	25	0							
TEST	RESULT												
Decarb/OD	Pass												
Total ID/OD decarb	Pass												

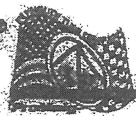
I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

Jamie Berosselt
Quality Assurance

**PLYMOUTH TUBE CO.**

1209 East 12th Street, Streator, Illinois 61364

Phone: (815) 673-1616 Fax: (815) 672-7343

TRUST YOUR SOURCE! ACCEPT NO SUBSTITUTIONS!**PRODUCT CERTIFICATION**

SALES ORDER - LINE / RLS

175629 - 1 / 0**SHIP TO**

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 023679

HEAT NUMBER 616506

PCS/HEAT 0

MELT SOURCE Benteler Steel & Tube-Germany

CUSTOMER P.O. 3887	CUSTOMER PART SQ-N34035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE
PART DESCRIPTION SHSQ0750035J300					
Additional Specification(s)					
TEST Brinell	UNITS Brinell	#TESTS 6	HIGH 253	LOW 253	AVERAGE 253
					STD-DEV 0
<p>This test report data is for the heat Chemistry Stated above.</p> <p>The material in this test report is:</p> <ol style="list-style-type: none">1) Drawn in the USA2) Free from Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Mercury contamination.3) NAFTA compliant. <p>End of Certification</p>					

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

Janine DeRossi
Quality Assurance

LIWEI

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130NTS 0.750W.035 PO / BATCH NO.: POMB045594
 DATE: JAN 27 2020 5250794

MATERIAL CERT REC'D: <u>YES</u>	THICKNESS ORDERED: <u>.750W.035</u>
QUANTITY RECEIVED: <u>609 PT</u>	THICKNESS RECEIVED: <u>.750W.035</u>
QUANTITY INSPECTED: <u>609 PT</u>	SHEET SIZE ORDERED: <u>—</u>
QUANTITY REJECTED: <u>0</u>	SHEET SIZE RECEIVED: <u>—</u>

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> N	
CORROSION	Y <input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> N	MIL-T-6736
CORRECT THICKNESS	<input checked="" type="radio"/> N	
PHOTO REQUIRED	Y <input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> N	616506
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: _____	DAS	SIGNED OFF BY: _____	
DATE: <u>JAN 27 2020</u>	<u>82</u> 9-89	DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>	DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> </div> <div> Eng. (Non-AW) <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Water Jet <input type="checkbox"/> Supplier <input type="checkbox"/> Quality <input type="checkbox"/> </div> </div>			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause <div style="display: flex; flex-direction: column;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Preservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div>		FAULT CATEGORY <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Bending <input type="checkbox"/> Crushing <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Mislabeled </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Incomplete/Unclear Instructions <input type="checkbox"/> Drill Holes <input type="checkbox"/> Fit/Function </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain Direction <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Off-set/Set-up </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Outside Tolerance <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Misread </div> </div>			
Other/Details:					